

CLAIMS

We claim:

- Sub A2*
1. A method of making a controlled release device useful for retarding or preventing decay or deterioration of a wooden object from a pest, the method having the steps of:
 - (a) mixing a pesticide including at least one fungicide, with a carrier wherein the pesticide is bound to the carrier in a pesticide carrier mix, then
 - (b) combining the pesticide carrier mix with a polymer.
 2. The method as recited in claim 1, wherein the pesticide is in a liquid form.
 3. The method as recited in claim 1, wherein said combining is by mixing the pesticide carrier mix with a pre-polymer thereby forming said hydrophobic polymer upon polymerization or curing.
 4. The method as recited in claim 1, wherein said combining is by encasing said pesticide carrier as an inner part with an outer part of said hydrophobic polymer.
 5. The method as recited in claim 1, wherein said polymer is a hydrophobic polymer.
 6. The method as recited in claim 1, wherein said hydrophobic polymer is selected from the group consisting of thermoplastic polymers, thermoset polymers, elastomeric polymer and copolymers thereof.
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A 4
7. The method as recited in claim 5, wherein said hydrophobic polymer is selected from the group consisting of low density polyethylene, high density polyethylene vinyl acetate, urethane, polyester, silicone, neoprene, disoprene and combinations thereof.

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8. The method as recited in claim 1, wherein said pesticide has a low vapor pressure.

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9. The method as recited in claim 8, wherein said low vapor pressure pesticide is combined with a high density pre-polymer.

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10. The method as recited in claim 9, wherein said high density pre-polymer is selected from the group consisting of high density polyethylene.

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11. The method as recited in claim 1, wherein said pesticide is water soluble.

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12. The method as recited in claim 11, wherein said pesticide is combined with a low density pre-polymer.

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13. The method as recited in claim 12, wherein said low density ^{hydrophobic} pre-polymer is selected from the group consisting of urethane, polyester, low density polyethylene, and combinations thereof.

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14. The method as recited in claim 13, wherein said fungicide is selected from the group consisting of tri-chloronitromethane under the tradename Chloropicrin, a mixture of methylisothiocyanate and 1-3 dichloropropane under the tradename Vorlex, sodium N-methyl dithiocarbamate

under the tradename Vapam, 2,3,5,6 - tetrachloro - 1,9 - benzoquinone under the tradename Chloronil, calcium cyanamide, biphenyl, copper naphthenate, dichlorphen, fentin hydroxide and combinations thereof.

5 15. The method as recited in claim 1, wherein said fungicide is selected from the group consisting of byphenyl, dichlorphen, Chlorpicrin, and combinations thereof.

Sub A7
10 16. A method of preventing the decay and deterioration of wooden objects in contact with soil caused by the invasion of pests comprising the steps of:
 (a) mixing a pesticide including at least one fungicide, said pesticide in liquid form, with
 (b) a carrier forming a pesticide carrier mix,
 (c) combining the pesticide carrier mix with a
15 polymer thereby forming a controlled release device, the concentration of the pesticide being sufficient to provide a predetermined release rate through said polymer and sufficient to provide a minimal effective level to prevent pest intrusion for a predetermined period of time; and
20 (b) placing the controlled release device proximate the wooden object.

 17. The method of claim 16 wherein the controlled release device releases pesticide at an initially high rate and a lower, steady state rate thereafter.

25 18. The method of claim 16 wherein the minimal effective level is maintained throughout the whole wooden structure.

19. The method of claim 16 wherein the minimal effective level is maintained in a zone of the wooden structure.

a *sub 25* *20* 20. The method of claim 16 where the ^{*hydrophobic*} polymer is selected from the group consisting of thermoset polymers, thermoplastic polymers, elastomeric polymers, thermoplastic polymers, elastomeric polymers, and copolymers thereof.

21. The method as recited in claim 16, wherein proximate is within said wooden object.

10 22. The method as recited in claim 16, wherein proximate is on an exterior surface of said wooden object.

23. The method as recited in claim 16, wherein proximate is touching or in physical contact with said wooden object.

side a 8 *15* 24. A controlled release device, comprising:
(a) a pesticide including at least one fungicide bound to,
(b) a carrier, thereby defining a carrier bound pesticide,
20 (c) said carrier bound pesticide enveloped within a hydrophobic polymer.

25. The controlled release device as recited in claim 24, wherein enveloped is an encapsulation or surrounding of said carrier bound pesticide as an inner part with said
25 hydrophobic polymer as an outer part.

26. The controlled release device as recited in claim 24, wherein enveloped is integration of said carrier bound pesticide within said hydrophobic polymer as the hydrophobic polymer is cross linked or cured.

5 27. The controlled release device as recited in claim 26, in the form of a rod, pellet, sleeve or sheet.

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28 28. The controlled release device as recited in claim 27, wherein said sheet further comprises a second sheet for retarding or preventing photodegradation of said pesticide.

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a9 10 29. The controlled release device as recited in claim 28, wherein said second sheet is a polymer selected from the group consisting of metallized Mylar, saran, or combinations thereof.

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